



JC10 Rec'd PCT/PTO 14 NOV 2005 ^{PCT}

Attorney Docket No. 62163 (45107)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT: Uwe Guntow et al.

U.S.S.N.: 10/512,134

Art Unit: Not Yet Assigned

FILED: October 22, 2004

Examiner: Not Yet Assigned

FOR: HIGH-TEMPERATURE SOLID ELECTROLYTE FUEL
CELL COMPRISING A COMPOSITE OF NANO-POROUS THIN
LAYER ELECTRODES AND A STRUCTURED ELECTROLYTE

**Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450**

TRANSMITTAL LETTER

Attached please find the following documents relating to PCT/EP2003/003936, from which the above-referenced application claims priority:

Documents: Translation of the International Preliminary Examination Report

Form Number: Form PCT/IPEA/409


WARNING: "When a document that is required by statute to be certified must be filed, a copy, including a photocopy or facsimile transmission of the certification is not acceptable." 37 C.F.R. section 1.4(f) (emphasis added).

CERTIFICATE OF MAILING (37 C.F.R. SECTION 1.8a)

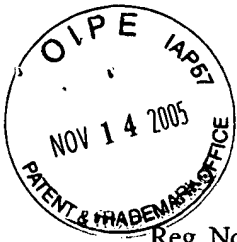
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NOTE: "The claim to priority need be in no special form and may be made by the attorney or agent, if the foreign application is referred to in the oath or declaration, as required by section 1.63." 37 C.F.R. section 1.55(a).

Translation

PATENT COOPERATION TREATY

PCT/EP2003/003936



PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 12073WO/mi	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/EP2003/003936	International filing date (day/month/year) 15 April 2003 (15.04.2003)	Priority date (day/month/year) 23 April 2002 (23.04.2002)
International Patent Classification (IPC) or national classification and IPC H01M 8/12		
Applicant FRAUNHOFER-GESELLSCHAFT ZUR FÖRDERUNG DER ANGEWANDTEN FORSCHUNG E.V.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 5 sheets, including this cover sheet.
- ☐ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).
- These annexes consist of a total of sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 07 August 2003 (07.08.2003)	Date of completion of this report 24 January 2005 (24.01.2005)
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/EP2003/003936

I. Basis of the report

1. With regard to the elements of the international application:*

- ☐ the international application as originally filed
- ☒ the description:
 pages 1-11, as originally filed
 pages _____, filed with the demand
 pages _____, filed with the letter of _____
- ☒ the claims:
 pages 1-9, as originally filed
 pages _____, as amended (together with any statement under Article 19
 pages _____, filed with the demand
 pages _____, filed with the letter of _____
- ☒ the drawings:
 pages 1/4-4/4, as originally filed
 pages _____, filed with the demand
 pages _____, filed with the letter of _____
- ☐ the sequence listing part of the description:
 pages _____, as originally filed
 pages _____, filed with the demand
 pages _____, filed with the letter of _____

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language _____ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/fig. _____

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rule 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.
PCT/EP 03/03936

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	2-9	YES
	Claims	1	NO
Inventive step (IS)	Claims		YES
	Claims	1-9	NO
Industrial applicability (IA)	Claims	1-9	YES
	Claims		NO

2. Citations and explanations

1) Reference is made to the following documents:

D1: IVERS-TIFFEE E ET AL: "Materials and technologies for SOFC components" JOURNAL OF THE EUROPEAN CERAMIC SOCIETY, ELSEVIER SCIENCE PUBLISHERS, BARKING, ESSEX, GB, Vol. 21, No. 10-11, 2001, pages 1805-1811, XP004301776
ISSN: 0955-2219

D2: WO 9425994 A

2) CLARITY

2.1) The application does not meet the requirements of PCT Article 6 because claim 1 is not clear.

2.2) Claim 1 has been drafted as a "product-by-process" claim. Claims relating to products which characterise the products in terms of a process for the production thereof are acceptable only when the products as such meet the requirements for patentability, that is are novel and inventive, *inter alia*. A product is not novel because it has been made using a novel process. A claim that characterises a product in terms of a production

process is considered to be directed to the product as such (see the PCT International Search and Preliminary Examination Guidelines, page 46, 5.26.

3) NOVELTY

3.1) The present application does not meet the requirements of PCT Article 33(1) because the subject matter of claim 1 lacks novelty (PCT Article 33(2)).

3.2) Document D1 discloses (page 1809, column 2, section 2 to page 1810, column 1, section 1; figure 13):

a high-temperature solid electrolyte fuel cell comprising an electrolyte layer between two electrode layers, characterised in that:

- (i) the surface of the electrolyte layer is roughened by the application of electrolyte particles; and
- (ii) a nanoporous electrode thin-film layer is deposited on the roughened electrolyte layer (for example by an MOD process, as explicitly stated in document D1).

Document D1 thus prejudices the novelty of the subject matter of claim 1.

4) INVENTIVE STEP

4.1) Irrespective of the lack of clarity mentioned above, the production process on which the subject matter of claim 1 is based does not involve an inventive

step (PCT Article 33(3)).

- 4.2 Document D1 is considered the prior art closest to the production process on which the subject matter of claim 1 is based.

D1 indicates only generally that the roughened grainy surface structure of the electrolyte layer is produced by applying electrolyte particles. Even if document D1 does not explicitly mention in this regard that the electrolyte particles are applied by screen printing, this feature appears to concern only one of several obvious possibilities (see, for example, document D2: page 3, lines 12 to 19; page 6, lines 24 to 28) from which a person skilled in the art would choose according to the circumstances in order to solve the problem of interest, without thereby being inventive.

- 5) Dependent claims 2 to 9 do not contain any features which, in combination with the features of any claim to which they refer, meet the PCT requirements for novelty and inventive step.